



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,010	10/23/2003	Patrick Brouhon	B-5274 621390-2	9369

7590 11/15/2004
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

SUN, XIUQIN

ART UNIT	PAPER NUMBER
----------	--------------

2863

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/693,010

Applicant(s)

BROUHON, PATRICK

Examiner

Xiugin Sun

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 23 is/are rejected.
- 7) ☒ Claim(s) 21,22 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/23/03&03/22/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-9, 12-20 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Silverbrook et al. (U.S. Pat. No. 6792165).

Silverbrook et al. teach a method of and measurement device determining the time-varying absolute position of device in respect to a surface (see Abstract), comprising: measuring at least one absolute position of the device in respect to the surface (col. 5, lines 37-53; col. 9, lines 24-32; col. 10, lines 30-36 and lines 44-54; col. 14, lines 2-20 and lines 27-56); measuring a time-varying vector representing the movement of the device in respect to the surface (col. 20, lines 36-67 and col. 21, lines 1-2); and initializing the position of vector to the at least one absolute position measurement thereby measuring the absolute position of the vector and thus the time-varying absolute position of the device (col. 42, lines 17-60; col. 44, lines 22-67 and col. 45, lines 1-5). The teaching of Silverbrook et al. further includes: the detection of the absolute position and the time-varying vector is achieved by non-contact optical means

(col. 5, lines 54-67; col. 19, lines 37-47; col. 43, lines 44-67 and col. 44, lines 1-20); the detection of the at least one absolute position is performed by imaging a glyph bed which is applied to the surface (col. 5, lines 54-67; col. 13, lines 52-67 and col. 6, lines 10-24); wherein the glyph bed is a machine-readable array of marking having absolute positions encoded therein (col. 5, lines 54-67; col. 13, lines 52-67 and col. 6, lines 10-24); wherein the glyph bed is invisible to the human eye or alternatively adapted to not substantially interfere with the appearance of the surface when viewed by the human eye (col. 5, lines 54-67; col. 13, lines 52-67 and col. 6, lines 10-24); wherein the glyph bed is applied using ink which is visible in the infrared part of the spectrum (col. 5, lines 54-67); the surface is overprinted with human-readable material in such a way as to obscure a portion of the glyph bed (col. 6, lines 10-24); where the detection of absolute stroke position is interrupted, attempting to interpolate across the interrupted area (col. 46, lines 8-20); and providing feedback to a user as to whether the stroke detection is successful or not, preferably in real time (col. 19, lines 23-36).

Silverbrook et al. further teach a method of and measurement device determining the absolute position of a stroke made by a measurement device in respect to a surface, said surface having embedded thereon position encoding indicia (see Abstract and col. 19, lines 48-63), comprising: detecting one or more position encoding indicia and thereby calculating at least one absolute position measurement of the device (col. 5, lines 37-53; col. 9, lines 24-32; col. 10, lines 30-36 and lines 44-54; col. 14, lines 2-20 and lines 27-56); in conjunction with the aforementioned step, measuring the relative movement of the device in respect to the surface and thereby calculating a time-varying

motion vector representing the movement of the device in respect to the surface (col. 20, lines 36-67 and col. 21, lines 1-2); and calculating the absolute location of the stroke in respect to the surface on the basis of at least one measurement of the absolute position in combination with the time-varying motion vector (col. 42, lines 17-60; co. 44, lines 22-67 and col. 45, lines 1-5).

Silverbrook et al. further teach a measurement device for determining the time-varying absolute position of the device in respect to a surface (see Abstract) including: a first measuring device arranged to determine at least one absolute position of the device in respect to the surface (col. 5, lines 37-53; col. 9, lines 24-32; col. 10, lines 30-36 and lines 44-54; col. 14, lines 2-20 and lines 27-56); a second measuring device arranged to determine a time-varying vector representing the movement of the device in respect to the surface (col. 20, lines 36-67 and col. 21, lines 1-2); processing means adapted to initialize the position of vector to the at least one absolute position measurement and output a signal representing the absolute position of the vector and thus the time-varying absolute position of the device (col. 42, lines 17-60; co. 44, lines 22-67 and col. 45, lines 1-5). The teaching of Silverbrook et al. further includes: said device includes a first and second optical system, the first adapted to image a glyph bed arranged to encode the absolute position onto the surface, and the second optical system adapted to determine the relative movement of the device in respect to the surface (col. 5, lines 54-67; col. 19, lines 37-47; col. 43, lines 44-67 and col. 44, lines 1-20); said first and second optical systems is incorporated into a common optical sensing device (col. 43, lines 44-67 and col. 44, lines 1-20); said device has a pen form-factor or

alternatively, a mouse form-factor (col. 43, lines 44-67 and col. 44, lines 1-20); the device includes additional support circuitry adapted to store stroke data (col. 20, lines 14-28); the device includes communications circuitry adapted to transmit stroke data to a control means such as a computer (col. 20, lines 14-28); said device operates by buffering the stroke data for user-activated upload, or communicate the stroke data in real-time, or be responsive to a users command to upload stroke data to a control means (col. 20, lines 14-28; col. 23, lines 62-67; col. 24, lines 1-14; col. 39, lines 50-63; col. 44, lines 22-67 and col. 44, lines 1-5).

Silverbrook et al. further teach a measurement device for determining the absolute position of a stroke made by the measurement device in respect to a surface, said surface having embedded thereon position encoding indicia (see Abstract and col. 19, lines 48-63), the measurement device including: a first measuring device arranged to detect one or more position encoding indicia and determine at least one absolute position measurement of the device (col. 5, lines 37-53; col. 9, lines 24-32; col. 10, lines 30-36 and lines 44-54; col. 14, lines 2-20 and lines 27-56); in conjunction with the aforementioned step, a second measuring device arranged to measure the relative movement of the device in respect to the surface and output a time-varying motion vector representing the movement of the device in respect to the surface (col. 20, lines 36-67 and col. 21, lines 1-2); and processing means adapted to calculate the absolute location of the stroke in respect to the surface on the basis of the at least one measurement of the absolute position in combination with the measurement of the time-varying motion vector (col. 42, lines 17-60; col. 44, lines 22-67 and col. 45, lines 1-5).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook et al. in view of Kinrot et al. (U.S. Pat. No. 6741335).

Silverbrook et al. teach the method and measurement device that includes the subject matter discussed above. Silverbrook et al. do not mention explicitly: the detection of the relative position of the time-varying vector representing the movement of the device in respect to the surface is preferably measured using heterodyne or homodyne detection of non-doppler, non-speckle image signals derived from changes in the phase and/or the amplitude of reflection from an optical surface; the detection of the relative position of the time-varying vector representing the movement of the device in respect to the surface is measured using a transducer-based arrangement. Silverbrook et al. also do not mention: using two separate measuring devices to determine the absolute position of the device and a time-varying vector representing the movement of the device in respect to the surface.

Kinrot et al. disclose a method and measurement device for determining the relative motion of a surface with respect to the measurement device, and teach: the

detection of the relative position of a time-varying vector representing the movement of the device in respect to the surface is preferably measured using heterodyne or homodyne detection of non-doppler, non-speckle image signals derived from changes in the phase and/or the amplitude of reflection from an optical surface (col. 6, lines 54-58; col. 9, lines 60-67; col. 10, lines 1-6 and col. 13, lines 16-62); and the detection of the relative position of the time-varying vector representing the movement of the device in respect to the surface is measured using a transducer-based arrangement (col. 26, lines 36-58).

It would also have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Kinrot measurement device in the invention of Silverbrook et al. in order to use a different but more accurate mechanism to measure a time-varying vector representing the movement of the device in respect to the surface (Kinrot et al., Abstract).

Allowable Subject Matter

5. Claims 21, 22 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for Allowance

6. The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claim 21 is the inclusion of the claimed method step of sanity checking interpolation and stroke reconstruction based on the statistically possible locations of strokes applied to the surface. It is this limitation found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

The primary reason for the allowance of claim 22 is the inclusion of the claimed method step of sanity checking absolute position measurements in respect of the sequence of stroke detection events of a surface by reference to user ergonomics, physical size of the surface, type of stroke applied or the speed of application of the stroke. It is this limitation found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

The primary reason for the allowance of claim 24 is the inclusion of the limitation that the claimed method is adapted to detect the absolute position of a plurality of strokes, said strokes constituting writing, wherein sanity checking of the absolute position detection is performed based on a forward looking probabilistic algorithm responsive to the physical writing environment and process. It is this limitation found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art Citations

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- 1) Pettersson et al. (WO 0126032A) disclose an encoded paper for optical reading.
- 2) Idemura (U.S. Pat. No. 6788888) discloses an optical device and image sensing system.
- 3) Gordon-Ingram (U.S. Pat. No. 6603115) discloses a measurement scale and system incorporating a measurement scale for determining absolute position.

Contact Information


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuqin Sun whose telephone number is (571)272-2280. The examiner can normally be reached on 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571)272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Xiuqin Sun
Examiner
Art Unit 2863

XS
November 4, 2004


MICHAEL NGHIEM
PRIMARY EXAMINER
11/10/04